

WHAT I CLAIM IS

1. A method for the transmission of data in a synchronous digital hierarchy (SDH) network comprising the steps of transmitting to a node of the network a form of data signal from outside the network, converting the signal into a virtually concatenated information structure and transporting the signal through the network in the virtually concatenated information structure wherein conversion of the signal comprises processing a path overhead of the signal wherein the integrity of the path overhead information is maintained.
2. The method of Claim 1 comprising the step of converting the signal so transported into a signal of the same form as that transmitted to the network wherein conversion of the signal comprises processing a path overhead of the signal wherein the integrity of the path overhead information is maintained.
3. The method of Claim 1 wherein the signal transmitted to the network from outside the network is in contiguously concatenated form.
4. The method of Claim 1 wherein the data signal from outside the network comprises a virtual container four (VC-4) or virtual container three (VC-3).
5. The method of Claim 4 wherein the path overhead comprises bytes H4, J1 and B3; and the VC-4 and VC-3 comprise a plurality of frames, the step of processing the path overhead including the steps of using byte H4 for indicating

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frame sequence within the VC-4 or VC-3 using byte J1 to indicate the order of VC-4s or VC-3s in a virtually concatenated information structure and correcting, as necessary, the error indication information carried in byte B3.

6. The method of Claim 5 comprising the steps of transmitting to a node of the network a signal from outside the network in a form comprising four contiguously concatenated VC-4s and processing the four VC-4s into a virtually concatenated information structure comprising virtually concatenated VC-4s for transfer across the network.
7. The method of Claim 5 comprising the steps of transmitting to a node of the network a signal from outside the network in a form comprising five contiguously concatenated VC-3s and processing the five VC-3s into a virtually concatenated information structure comprising virtually concatenated VC-3s for transfer across the network.
8. The method of Claim 6 comprising the step of aligning the virtually concatenated virtual containers (VCs) of the virtually concatenated information structure using a buffer.
9. The method of Claim 8 comprising the step of controlling the alignment according to the contents of bytes J1 and H4.
10. The method of Claim 6 comprising the steps of switching and transmitting the

VC-4 or VC-3 frames of the virtually concatenated information structure through the network together in a single synchronous transfer module (STM) or in multiple STMs and via the same route.

11. The method of Claim 1 wherein the data signal from outside the network comprises a virtual container two (VC-2) or a virtual container one (VC-1).
12. The method of Claim 11 wherein the path overhead comprises bytes V5, J2, N2 and K4 and wherein the step of processing the path overhead includes the step transferring the contents of the path overhead bytes to unused parts of the signal.
13. The method of Claim 12 comprising the steps of transmitting to a node of the network a signal from outside the network in a form comprising two or more contiguously concatenated VC-2s or VC-1s and processing the VC-2s or VC-1s into a virtually concatenated information structure comprising virtually concatenated VC-2s or VC-1s for transfer across the network.
14. The method of Claim 13 comprising the step of aligning the virtually concatenated VCs of the virtually concatenated information structure using a buffer.
15. The method of Claim 14 comprising the step of controlling the alignment according to the contents of the path overhead bytes transferred to the unused part of the signal.

16. The method of Claim 13 in which the contiguously concatenated VC-2s or VC-1s received from outside the network comprise a plurality of frames in a set sequence, and in which the sequence of the frames may change whilst being transported through the network, the method comprising the step of re-ordering the frames into the set sequence as required.
17. The method of Claim 13 in which the VC-2s and VC-1s comprise a plurality of frames, the method comprising the steps of switching and transmitting the VC-2 or VC-1 frames of the virtually concatenated information structure through the network together in a single synchronous transfer module (STM) or in multiple STMs and via the same route.
18. The method of Claim 1 comprising the step of recognising the receipt of a signal in concatenated form by the network.
19. A synchronous digital hierarchy (SDH) network in which data is carried in a virtually concatenated information structure, the network comprising tributary cards arranged and configured to process signals received in contiguously concatenated form to convert them into virtually concatenated form for transfer across the network.
20. The network of Claim 19 wherein the tributary cards are arranged and configured to process signals transferred across the network in virtually

concatenated form and to convert them into contiguously concatenated form.

21. The network of Claim 20 wherein the signals in virtually concatenated form comprise virtual containers (VC) and the tributary cards comprise one or more buffers for aligning said virtual containers (VC).
22. The network of the Claim 19 wherein the tributary cards are configured and arranged to detect the receipt of signals in contiguously concatenated form by detecting a concatenation indication of the signals received.

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